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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,185	02/27/2004	Mitch Rooker	03943.0118-00000	4576
7590 01/21/2005				
Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P. 1300 I Street, N.W. Washington, DC 20005-3315			EXAMINER KRISHNAMURTHY, RAMESH	
			ART UNIT 3753	PAPER NUMBER

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/787,185

Applicant(s)

ROOKER ET AL.

Examiner

Ramesh Krishnamurthy

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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This office action is responsive to communications filed 06/22/04.

**Claims 1 – 55 are pending.**

1. The formal drawings were received on 06/22/04. These drawings are approved.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 5, 7 – 9, 14 – 20, 22 – 24, 27 – 35, 37, 39, 42 – 48 and 51 – 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Hansen (US 4,580,691).

Hansen discloses (Figs. 1 – 10) a pressure relief device, comprising: a sealing member (40) having a domed shape including a concave and a convex side; a non-symmetrical low-pressure support member (50) configured to provide support along the concave side of the sealing member when the sealing member is subject to a certain pressure differential, the low pressure support member including an annular flange (51) and at least one supporting projection or tongue (55), a cutting element (75 – 77) having multiple blades adapted to puncture the sealing member when the sealing member is subject to a predetermined first pressure differential; a high-pressure support member (25) configured to selectively provide support to the sealing member; wherein the high-pressure support member is configured to rupture when the sealing member and high-pressure support member are subject to a predetermined second pressure differential; and inlet (2) and outlet (3) safety head members positioned to sealingly engage the low pressure support member and the high pressure support member therebetween.

It is noted that the low-pressure support member (50) could be configured as either symmetric or asymmetric depending upon the reference diameter of the passage (11) spanned by the support member (50). Also Hansen discloses that it is known to use alternate geometrical arrangements of the arches (54) (Col. 8, lines 46 – 51). A transition section is considered to be inherent to the low-pressure support member (50) since it has both convex and concave surfaces. An area of weakness (62) is formed within the arch (54).

The high-pressure support member (25) includes a main body (27) having a number of slits (30) that divide the main body into a multiple petal sections.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 6, 10, 21, 25, 36, 38 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen as applied to claims 1 – 5, 7 – 9, 14 – 20, 22 – 24, 27 – 35, 37, 39, 42 – 48 and 51 – 55 above, and further in view of Thompson et al. (US 4,342,988).

The patent to Hansen discloses the claimed invention with the exception of explicitly disclosing at least one arch to lie entirely one side of the centerline. As noted above, Hansen does disclose that it is known to use alternate geometrical arrangements of the arches (54) (Col. 8, lines 46 – 51).

Thompson et al. discloses a pressure relief device comprising a low-pressure support member (14) having at least one arch (32) that lies entirely within one side of the centerline (see Fig. 3) for the purpose of obtaining a desired flow area upon rupture of the disc.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided an arch in the low-pressure support that lies entirely within one side of the centerline for the purpose of obtaining a desired flow area upon rupture of the disc, as recognized by Thompson et al.

It is noted that Thompson et al. discloses the low-pressure support member (14) having a number of areas of weakness disposed (see Fig. 4, for example) on the periphery of the arch for the purpose of providing a desired failure point for the low-pressure support member.

7. Claims 11 – 13, 26, 40, 41 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen as applied to claims 1 – 5, 7 – 9, 14 – 20, 22 – 24, 27 – 35,

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37, 39, 42 – 48 and 51 – 55 above, and further in view of Brazier et al. (US 6,321,771 B1).

The patent to Hansen discloses the claimed invention with the exception of explicitly disclosing the area of weakness in the arch to be a cut with a connecting member connecting the arch across the cut.

Brazier et al. discloses a pressure relief device having a low-pressure support member (24) that has at least two arches (60, 61) having different configuration with at least one arch (60) having a cut with a connecting member (68) connecting the arch across the cut. Such a configuration provides a maximal flow path for quick reduction of the pressure within the system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Hansen an arch in the support member that is a cut with a connecting member connecting the arch across the cut and also a configuration of having at least two arches with different configurations for the purpose of providing maximal flow path thereby achieving quick reduction of pressure, as recognized by Brazier et al.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

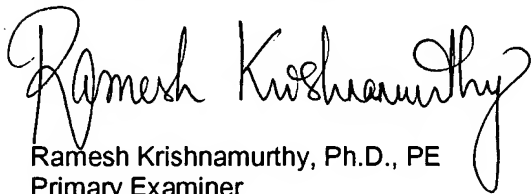
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene L. Mancene, can be reached on (571) 272 – 4930. The fax phone number for the organization where this application or proceeding is assigned is (703) 872 – 9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 - 0861.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "Ramesh Krishnamurthy". The signature is fluid and cursive, with the first name "Ramesh" and last name "Krishnamurthy" clearly distinguishable.

Ramesh Krishnamurthy, Ph.D., PE  
Primary Examiner  
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